

NOTES ON WESTERN AUSTRALIAN FISHES, No. 1

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SUMMARY

Seven new species from North Western Australia are described and figured. New localities and ranges of distribution are given for seventeen Western Australian fishes. Sixteen further species are recorded as new records for that State, and eight species, one of which is figured, are listed as new records for Australia. *Polynemus specularis* De Vis is considered to be a synonym of *Polynemus multiradiatus* Gunther.

INTRODUCTION

During the past five years the Underwater Spearfishermen's Association of Western Australia has sent to the South Australian Museum for identification, a collection of about 500 onshore and reef-living fishes from that State. These fishes, collected by means of the spear-gun, or multi-pronged hand spear, were preserved in formalin, packed in 4-gallon collecting drums, and forwarded to the Museum. The accompanying notes on the specimens provided useful information as to the distribution, abundance and habitats of these fishes. In many cases, coloured photographs were taken at the time of capture of the specimens, and these have provided useful records of life colouration.

This is the first of a series of papers dealing with the fishes of Western Australia; I wish to express my thanks to the Underwater Spearfishermen's Association of Western Australia and in particular to Mr. F. Barrett-Lennard for his valuable assistance in the collecting of many of these specimens, and for the most useful notes and colour photographs which he has placed at my disposal.

Family SYNODONTIDAE

Genus SAURIDA Cuv. and Val., 1849

Saurida tumbil (Bloch)

Salmo tumbil Bloch, 1795, Nat. Ansl. Fische, 9, p. 112.

Two specimens measuring 155 mm. and 170 mm. total length were taken at Point Samson, August, 1957, and Exmouth Gulf, November, 1954, respectively. Add area 5 to Whitley's (1948, p. 13) distribution of this species in Western Australia.

Family MUGILIDAE

Genus LIZA Jordan and Swain, 1884

Liza vaigiensis (Quoy and Gaimard)

Mugil vaigiensis Quoy and Gaimard, 1824, Voy. Uranie Physic., p. 337, pl. 59, fig. 2.

A small specimen measuring 108 mm. total length was taken at Point Samson, December, 1957. Add area 5 to Whitley's (1948, p. 17) distribution of this species in Western Australia.

Family POLYNEMIDAE

Genus POLYNEMUS Linnaeus, 1758

Polynemus multiradiatus Gunther

Polynemus multiradiatus Gunther, 1860, Cat. Fish. Brit. Mus., 2, p. 324.

Polynemus specularis De Vis, 1883, Proc. Linn. Soc. N.S.W., 8 (2), p. 285.

A small specimen measuring 145 mm. total length was taken at Point Samson, August, 1957. This species was first recorded from Western Australia by Whitley (1952-53, p. 29) as *Polydactylus specularis* (De Vis). The above synonymy of *P. specularis* De Vis is suggested.

My thanks to Mr. T. C. Marshall for material from the collection of the Department of Harbours and Marine, Queensland.

Family EPINEPHELIDAE

Genus EPINEPHELIUS Bloch, 1793

Epinephelus homosinensis Whitley

Epinephelus homosinensis Whitley, 1944, Austr. Zool., 10 (3), p. 267.

A specimen measuring 315 mm. total length was taken at Point Samson, August, 1957. Previously recorded only from the Geraldton-Abrolhos region, Western Australia, where it is known as the "Chinaman Cod". Add areas 4 and 5 to Whitley's (1948, p. 18) distribution of this species in Western Australia.

Genus PLECTROPOMUS Cuvier, 1817

Plectropomus maculatus (Bloch)

Bodianus maculatus Bloch, 1790, Nat. Ausl. Fische, 4, p. 48.

A specimen measuring 258 mm. total length was taken at Point Samson, August, 1955. Add area 5 to Whitley's (1948, p. 18) distribution of this species in Western Australia.

Family PSEUDOCROMIDAE

KEY TO THE PSEUDOCROMIDAE OF WESTERN AUSTRALIA

- | | | | |
|---|-------|--|---|
| 1. Dorsal spines more than 4 | ..... | <i>Stigmatonotus australis</i> | |
| Dorsal spines less than 4 | ..... |  | 2 |
| 2. Dorsal spines 2, palatines toothless | ..... |  | 3 |
| Dorsal spines 3, palatines with teeth | ..... |  | 4 |
| 3. Ventral fins close together; a large pink spot on side of body | | <i>Dampiera ignita</i> sp. nov. | |
| Ventrals separated by a scaly process; body with 16 to 17 dark longitudinal lines | | <i>Dampiera lineata</i> | |
| 4. All dorsal and anal rays branched | ..... | <i>Leptochromis tapeinosoma wilsoni</i> | |
| Some anterior dorsal rays simple, the posterior rays branched | ..... |  | 5 |
| 5. Teeth of vomer and palatines in 4 or 5 rows; lateral line scales 38 + 6-7 | ..... | <i>Pseudochromis (Assiculus) punctatus</i> | |
| Teeth of vomer and palatines in a single row; lateral line scales 30 + 8-10 | ..... | <i>Pseudochromis (Devisina) fuscus</i> | |

Genus DAMPIERIA Castelnau, 1875

Dampiera lineata Castelnau

Dampiera lineata Castelnau, 1875, Res. Fish. Austr., p. 30.

A specimen measuring 166 mm. total length was taken at Point Samson, August, 1955. Add area 5 to Whitley's (1948, p. 18) distribution of this species in Western Australia.

Dampiera ignita sp. nov.

D.ii,25. I,17. A.iii,14. V,i,5. C,17. Br,6.

Lat. line 57 + 21-23.

Length of head 48 mm. (4.1), greatest depth of body 45 (4.4), greatest width of body 23 (8.6) in the total length 198 mm. Height of head 1.2 in its length. Eye 10 (1.3) in the snout, and 0.7 in the convex interorbital space. Snout 13 (3.7) in the head.

Cleft of mouth very oblique, curved downward posteriorly, almost reaching the ventral profile, terminating below the anterior border of the eye. Lower jaw longer than upper. Teeth in upper jaw in several series, the outer row

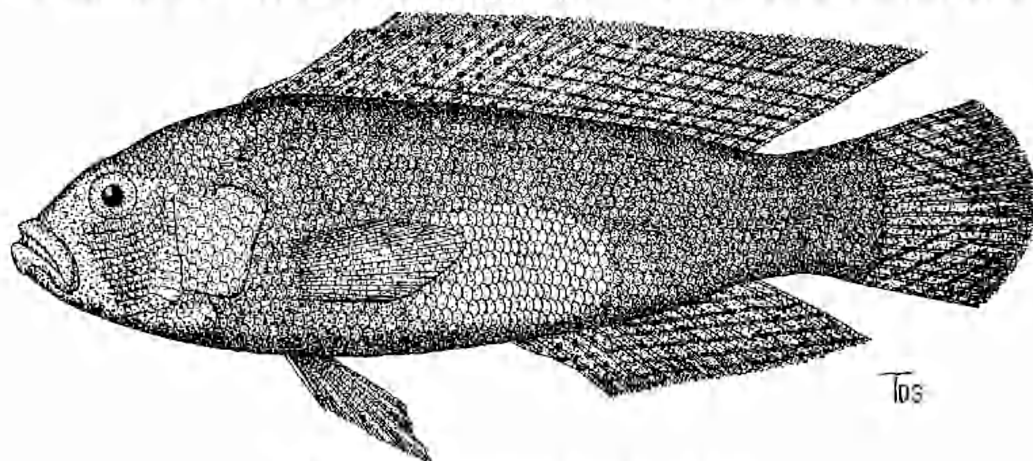


Fig. 1.—*Dampiera ignita* sp. nov. ($\times \frac{2}{3}$).

enlarged. Two pairs of canines in front, the outer pair larger, slightly curved. Teeth in lower jaw uniserial laterally, 2 pairs of enlarged canines in front, of equal size, a patch of smaller teeth behind each pair. Palatines without teeth. vomer with a single row of small conical teeth.

Ten rows of cycloid scales on the cheek, the upper scales the largest. Operculum with six to seven rows of larger scales. Preoperculum entire, operculum unarmed.

Head scales beginning between eyes, small and cycloid. Rest of body covered with ctenoid scales of moderate size, forming a low basal sheath on the vertical fins. Lateral line interrupted below the twentieth dorsal ray, the upper part separated from the lower by five rows of scales. Lateral line scales with a short simple tube.

Dorsal long, originating above hindborder of operculum, consisting of 2 weak spines and 25 rays, the posterior rays prolonged. Anal with 3 stronger spines, the third the longest, but not equal to the eye diameter. Ventrals close together, the third ray produced. Pectoral of moderate size, its length 1.5 in the head. Caudal fin rounded.

Colour in alcohol.—Body coloured a dark brown, with some traces of darker longitudinal bands as in *lineata*. A large whitish oval patch (which is pink in life) on the sides, behind the pectoral fin, extending downwards to the ventral profile, upward to the fourth row of scales below the lateral line, and backward almost to the beginning of the lower lateral line. Dorsal and anal fins with dark spots, anteriorly, parallel dark bands posteriorly, these bands extending on to the caudal fin.

Described from a specimen 198 mm. total length, taken Sharks Bay, May, 1954. Type in South Australian Museum, Reg. No. F2997. Further specimens measuring 119 mm., 130 mm., and 156 mm. total length were taken at Point Samson, December, 1957.

Affinities.—Differs from *D. lineata* in body proportions, in colouration, in the more posterior insertion of the anal fin, and in the separation of the ventrals. In *D. ignita*, the ventrals are very close together; *D. lineata* has the ventrals more widely separated, and there is a scaly process between their bases.

Family TERAPONTIDAE

Genus EUTHERAPON Fowler, 1904

Eutherapon theraps (Cuv. and Val.)

Therapon theraps Cuvier and Valenciennes, 1829, Hist. Nat. Poiss., 3, p. 129, pl. 53.

A specimen measuring 138 mm. total length was taken at Point Samson, August, 1955. This species was first recorded from Western Australia as *Therapon rubriculus* Richardson, 1842, and Whitley (1948, p. 19) does not indicate its distribution in Western Australia, except "N.W. Australia". Add area 5 to Whitley's distribution of this species in Western Australia.

Family CARANGIDAE

Genus CARANX Lacepede, 1802

Caranx bucculentus Alleyne and Macleay

Caranx bucculentus Alleyne and Macleay, 1877, Proc. Linn. Soc. N.S. Wales, 1 (4), p. 326, pl. 11, fig. 1.

A specimen measuring 124 mm. total length was taken at Broome, June, 1955. Dorsal fin i,viii,j,19. Anal fin ii,j,16. The straight part of the lateral line commences below the 6th dorsal spine, and bears 37 scutes. The five broad dark cross-bars from the back to the middle of the sides, as noticed by McCulloch in a specimen 123 mm. in length, are apparent.

A second record of this species for Western Australia.

Genus ELAGATIS Bennett, 1835

Elagatis bipinnulatus (Quoy and Gaimard)

Seriola bipinnulata Quoy and Gaimard, 1825, Voy. Uranie Physic. (Zool.), 1, p. 363, pl. 61, fig. 3.

A large specimen measuring 650 mm. total length was taken at Point Samson, August, 1957. A second record for Western Australia. Add area 5 to Whitley's (1948, p. 20) distribution of this species in Western Australia.

In this specimen, the two detached anal spines characteristic of the Carangidae, have become obsolete with age.

Family LUTIANIDAE

Subfamily LUTIANINAE

Genus LUTIANUS Bloch, 1790

Lutianus russelli (Bleeker)

Mesoprion russelli Bleeker, 1849, Verh. Bat. Gen., 22, Perc., p. 41.

A small specimen measuring 160 mm. total length was taken at Exmouth Gulf, November, 1954. Above the lateral line there is a series of narrow bands, passing obliquely upwards and backwards to the dorsal profile. Below the lateral line, the specimen bears three horizontal wider bands, parallel to the axis of the body. The black, oval, lateral blotch, measuring 13 mm. by 9 mm., is

almost entirely above the lateral line, and is situated below the junction of the posterior dorsal spines and anterior rays.

A new record for Western Australia.

Lutianus chrysotaenia (Bleeker)

Mesoprion chrysotaenia Bleeker, 1851, Nat. Tijdsch. Ned. Indie, 2, p. 170.

A specimen was taken at Point Samson, August, 1955. Add area 5 to Whitley's (1948, p. 21) distribution of this species in Western Australia.

Lutianus vitta (Quoy and Gaimard)

Serranus vitta Quoy and Gaimard, 1824, Voy. Uranie Physic. (Zool.), p. 315, pl. 58, fig. 3.

A small specimen measuring 125 mm. total length was taken at Point Samson, August, 1957. Add area 5 to Whitley's (1948, p. 21) distribution of this species in Western Australia.

Sub-family NEMIPTERINAE

Genus NEMIPTERUS Swainson, 1839

KEY TO THE AUSTRALIAN SPECIES OF NEMIPTERUS

- | | | |
|---|------------------------|--------------------------------|
| 1. Lower jaw with canine teeth | ..... | 2 |
| Lower jaw without canines | ..... | 4 |
| 2. Eleven rows of scales below lateral line; body with yellow bands | | |
| | <i>N. laeniopterus</i> | |
| Fourteen rows of scales below lateral line; body without bands | ..... | 3 |
| 3. Lower jaw with six canines; colour uniform | ..... | <i>N. robustus</i> |
| Lower jaw with eight canines; colour brown above, silvery below | | |
| | <i>N. sundanensis</i> | |
| 4. Posterior dorsal spines longest | ..... | <i>N. theodori</i> |
| Median dorsal spines longest | ..... | 5 |
| 5. Upper caudal lobe greatly produced | ..... | <i>N. auriflum</i> |
| Upper caudal lobe not produced | ..... | 6 |
| 6. Upper jaw with three pairs of canines | ..... | <i>N. upeneoides</i> |
| Upper jaw with one pair of canines | | <i>N. samsonensis</i> sp. nov. |

Nemipterus samsonensis sp. nov.

D.x,9. P.16. A.iii,7. V.i,5. C.18. Br.6.

Lat. line 49-50. Lat. trans. 3:11.

Length of head 44 mm. (4.5), greatest depth of body 51 (4.0), greatest width of body 25 (8.0) in the total length 200 mm. Height of head 1.1 in its length. Eye 13 (1.2) in the snout and 0.8 in the flat interorbital space. Snout 15 (2.9) in the head.

Body elongated, not very deep, rather compressed. Mouth of moderate size, horizontal, maxillary reaching to posterior nostril. Jaws equal.

Bands of small pointed teeth in both jaws, narrowing laterally, with the outer row enlarged. One pair of moderate canines in upper jaw, lower jaw without canines. Palate without teeth. Lips rather thick.

Preoperculum rectangular, rounded at angle, smooth behind. Suborbital rather deep, more than half vertical diameter of eye. Posterior angle very obtuse, the hindborder a straight line which when produced above reaches the origin of the dorsal fin. Naked limb of preoperculum about half depth of scaly part.

Body covered with moderate ctenoid scales. Nape, operculum and cheek scaly, rest of head naked. Three oblique rows of large cycloid scales on cheek

below suborbital, leaving a naked limb below on preoperculum. Body scales continued to end of caudal fin. Lateral line complete, not sharply bent, consisting of unbranched oblique tubes. Ventral fins with an axillary process.

Dorsal fin consisting of ten slender spines, the middle spines the longest. Membrane between dorsal spines slightly emarginate. Posterior spines shorter

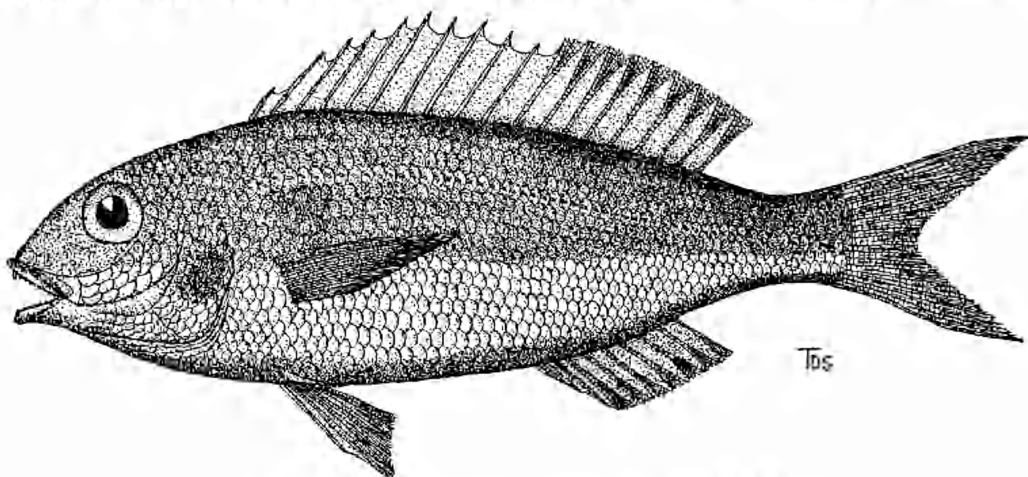


Fig. 2.—*Nemipterus samsonensis* sp. nov. ($\times \frac{5}{8}$).

than first rays. Pectorals long, almost equal to head. Ventrals shorter, not reaching to vent. Anal spines slender, the first very short, the third longest, equal in length to diameter of eye. Anal rays longer than third spine. Caudal fin deeply forked, consisting of eighteen principal rays. Pseudobranchiae present.

Colours in life.—Body and head pinkish above, silvery below. A large dark patch on the operculum. A round dark patch on body immediately behind head and below lateral line. Flus pinkish, without any markings.

Described from a specimen 200 mm. total length, taken Point Samson, November, 1954. Type in South Australian Museum, Reg. No. F2966.

Genus *SCOLOPSIS* Cuvier, 1817

Scolopsis bilineatus (Bloch)

Anthias bilineatus Bloch, 1793, Nat. Austral. Fische 7, p. 3.

Two specimens measuring 195 mm. and 96 mm. total length were taken at Point Samson, December, 1957.

The adult and juvenile specimens exhibit a considerable difference in coloration and pattern. The colours in alcohol are as follows:—

Adult, greenish above, breast silvery, sides yellow. Two greyish-silver stripes on sides, one arising immediately above the eye, the second from the upper part of the eye, passing backwards and upwards towards the dorsal profile, but not reaching it. A third much broader stripe arises below the eye, and passes upwards obliquely to end below the last dorsal spine and the first soft ray. It is bordered above and below by a dark brown stripe. A black patch covers the membrane and distal parts of the last two dorsal spines and first four rays. Anal spines, first two anal rays and the membrane between them black. Other fins hyaline.

In the juvenile, in addition to the three longitudinal stripes, there arises in the interorbital space a narrow stripe which passes back to the beginning of the dorsal fin. The three inferior stripes are all parallel and of approximately equal

width, passing back obliquely to the dorsal profile, the interspaces coloured dark brown. A black patch on the posterior part of the dorsal fin, as in adult. In addition, there is a large black ocellus on the membrane between the first three dorsal spines. Anal fin black at the tip of the last spine and first two rays. Other fins hyaline, without any markings.

A new record of this species for Australia.

Family GERRIDAE

Genus *Gerres* Quoy and Gaimard, 1824

Gerres australis Castelnau

Gerres australis Castelnau, 1875, Res. Fish. Austr. (Vict. Offic. Rec. Philad. Exhib.), p. 43.

A specimen measuring 110 mm. total length was taken at Point Samson, August, 1955.

Upper parts dark metallic blue, under parts silvery, the two colours sharply defined by a line passing above the orbit and through the middle of the caudal peduncle. There are 7 to 8 thin dark vertical bars on the sides, which become more obvious in alcohol.

Add area 5 to Whitley's (1948, p. 21) distribution of this species in Western Australia.

Family POMADASIDAE

Genus *Plectorhynchus* Lacepede, 1802

Plectorhynchus chaetodonoides Lacepede

Plectorhynchus chaetodonoides Lacepede, 1802, Hist. Nat. Poiss., 3, p. 134.

A specimen measuring 490 mm. total length was taken at Point Samson, August, 1955. An adult specimen in which the first and second dorsal fins and caudal fin are densely covered with large brown spots. Back, sides and upper caudal peduncle similarly spotted. Pectorals, anal and ventrals a uniform dark brown.

Weber and De Beaufort (1936, p. 414) record the maximum size of this species as 450 mm., but the specimen from Point Samson measured 490 mm., total length.

A new record of this species for Australia.

Plectorhynchus ordinalis sp. nov.

D.xii,16. P.17. A.iii,7. V.i,5. C.17. Br.7.

Lat. line 58-60. Lat. trans. 23 : 26-30.

Length of head 50 mm. (4.0), greatest depth of body 66 (3.0), greatest width of body 21 (9.4) in the total length 198 mm. Height of head 1.0 in its length. Eye 12 (1.7) in the snout and 1.0 in the convex interorbital space. Snout 20 (2.5) in the head.

Body rather deep, somewhat compressed. Mouth small, slightly oblique, scarcely protractile. Maxillary reaching to below posterior nostril. Lips thick. Both jaws with several rows of small conical teeth, the outer row in both jaws enlarged. No canines. Palatines and vomer toothless.

Preoperculum rectangular, serrated posteriorly. Body and head covered with small ctenoid scales, with the exception of the snout, lips and chin. Interorbital scales extending forward to anterior nostril. Soft dorsal and anal fins with a scaly sheath. Ventral fins with an axillary process. A row of six pores on the chin, behind lower lip. Lateral line complete, gently curved throughout its length, each scale with a simple oblique tube. Body scales above lateral line much smaller than those below.

Dorsal fin with 12 strong spines, the third and fourth spines the longest, length 18 mm. Spines decreasing gently in length posteriorly, the last spine not much shorter than the first ray. Pectorals of moderate length, equal to length of ventrals. Ventral fins pointed, reaching to vent. First anal spine minute, second spine the longest, length equal to greatest body width. Caudal fin truncate.

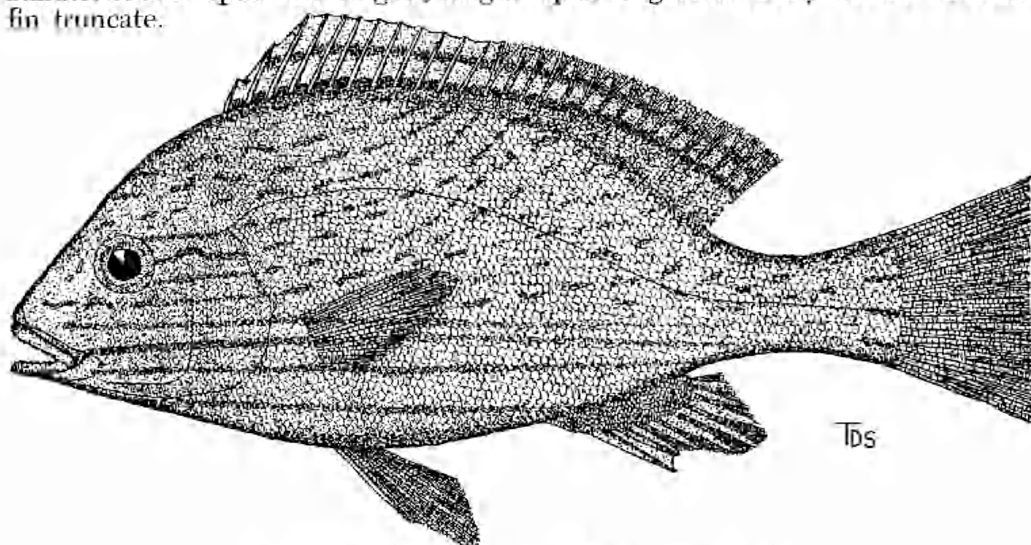


Fig. 3.—*Plectorhynchus ordinalis* sp. nov. ($\times \frac{1}{2}$).

Colours in life.—Body coloured blue-grey above, white below. Eight to nine bright yellow longitudinal bands on the head, extending on to the body. These bands remain distinct on the lower half of the body, but become broken up into a series of dots and short bands on the upper half. Two distinct rows of similarly coloured spots along the entire length of the dorsal fin. All other fins coloured a transparent light yellow.

Described from a specimen 198 mm. total length, taken Sharks Bay, May, 1954. Type in South Australian Museum, Reg. No. F3006.

Affinities.—Similar to *chrysotaenia* Bleeker in body proportions and colouration, but differs in the dorsal fin counts (12 spines and 16 rays, compared with 13 spines and 19-20 rays in *chrysotaenia*), and in scale counts.

Family MULLIDAE

Genus *BARBUPENEUS* Whitley, 1931

Barbupeneus signatus (Gunther)

Upeneus signatus Gunther, 1867, Ann. Mag. Nat. Hist. (3), 20, p. 59.

Two specimens measuring 180 mm. and 211 mm. total length were taken at Point Samson, December, 1957.

A new record of this species for Western Australia.

Family LETHRINIDAE

Genus *LETHRINICHTHYS* Jordan and Thompson, 1912

Lethrinichthys nematacanthus (Bleeker)

Lethrinus nematacanthus Bleeker, 1854, Nat. Tijdschr. Ned. Ind., 6, p. 403.

A small specimen measuring 174 mm. total length was taken at Point Samson, August, 1957. Add area 5 to Whitley's (1948, p. 22) distribution of this species in Western Australia.

Lethrinichthys, erected as a sub-genus by Jordan and Thompson, has been regarded by previous authors (McCulloch, 1929; Weber and de Beaufort, 1936) as a synonym of *Lethrinus*. However, Whitley (loc. cit.) has raised the sub-genus to generic status, the two genera being separated by the character of the lateral teeth.

Family SPARIDAE

Genus MYLIO Lacepede, 1802

Mylio latus (Houttuyn)

Sparus latus Houttuyn, 1782, Haarlem, Verh. Holl. Maatsch. Wet., 20 (2), p. 322.

D.xi,12. P.15. A.iii,9. V.i,5. C.17.

Lat. line 50. Lat. trans. 4:11.

A young specimen measuring 165 mm. standard length was taken at Point Samson, August, 1955.

Six curved incisors in each jaw. Upper jaw with 4 rows of molars on each side, the outer row considerably flattened laterally. Lower jaw with 3 rows of molars, the outer series not much flattened. A small dark blotch at the origin of the lateral line, and a dark hind border to the operculum. No black spot in axil of pectoral. Dorsal fins dusky, ventrals and anal without markings. A narrow dark border to the caudal fin.

Family PEMPHERIDAE

Genus PEMPHERIS Cuvier, 1829

Pempheris compressa (Shaw)

Sparus compressa White, 1790, Voy. N.S. Wales, p. 267, pl. 12, fig. 2. Ex Shaw MS.

Two specimens measuring 114 mm. and 131 mm. total length were taken at Point Samson, December, 1957. This species was recorded from Western Australia by McCulloch (1929, p. 234), but was omitted from Whitley's (1948) list of the fishes of Western Australia.

Family CHAETODONTIDAE

Genus MEGAPROTODON Guichenot, 1848

Megaprotodon strigangulus (Gmelin)

Chaetodon strigangulus Gmelin, 1788, Syst. Nat., ed. 13, p. 1269.

Two specimens measuring 145 mm. and 147 mm. total length were taken at Point Samson, December, 1957.

A new record of this species for Australia.

Genus ANISOCHAETODON Klunzinger, 1884

Anisochaetodon lineolatus (Cuv. and Val.)

Chaetodon lineolatus Cuvier and Valenciennes, 1831, Hist. Nat. Poiss., 7, p. 40.

A small specimen measuring 145 mm. total length was taken at Point Samson, December, 1957.

A new record of this species for Western Australia.

Genus CHAETODON Linnaeus, 1758

Chaetodon lunula (Lacepede)

Pomacentrus lunula Lacepede, 1802, Hist. Nat. Poiss., 4, p. 507.

Two specimens measuring 185 mm. and 190 mm. total length were taken at Point Samson, December, 1957.

A new record of this species for Western Australia.

Genus EUXIPHPOPS Fraser-Brunner, 1934

Euxiphipops sexstriatus (Cuv. and Val.)*Holacanthus sexstriatus* Cuv. and Val., 1831, Hist. Nat. Poiss., 7, p. 194.

Previous Australasian records: Cape Grenville, Queensland (Alleyne and Macleay, 1877, p. 277); Port Darwin, N.T. (Macleay, 1878, p. 352); Port Moresby (Macleay, 1883, p. 244); Darnley Is. (Ogilby, 1915, p. 105); Low Is., Queensland (Whitley, 1932, p. 288).

A specimen measuring 265 mm. total length was taken at Point Samson, August, 1955.

A new record for W.A., and the most southerly record for this species to date.

Genus HENIOCHUS Cuvier, 1817

Heniochus acuminatus (Linnaeus)*Chaetodon acuminatus* Linnaeus, 1758, Syst. Nat., 10, p. 272.

Previous Australasian records: Port Darwin and Port Essington (Macleay, 1881, p. 94); Hood Bay, New Guinea (Macleay, 1884, p. 263); Cape Byron Light, N.S. Wales (McCulloch, 1916, p. 193); northern N.S. Wales (McCulloch, 1922, p. 91).

A specimen measuring 155 mm. total length was taken at Sharks Bay, May, 1954.

A new record for Western Australia.

Genus CHAETODON Linnaeus, 1758

Chaetodon aureofasciatus Macleay*Chaetodon aureofasciatus* Macleay, 1878, Proc. Linn. Soc. N.S. Wales, 2 (4), p. 351, pl. 8, fig. 3.

D.xi,23. A.iii,19.

Lat. line 35-36. Lat. trans 13 : 23-24.

Length of head 28 mm. (4.2), greatest depth of body 88 (1.4), greatest width of body 15 (7.9) in the total length 118 mm. Height of head 0.4 in its length. Eye 9 (0.8) in the snout and 1.2 in the convex interorbital space. Snout 7 (4.0) in the head. Depth of body equal to standard body length. Depth of caudal peduncle 11, equal to interorbital space.

A specimen measuring 118 mm. total length was taken at Point Samson, August, 1955.

This specimen has the two bands across the caudal peduncle as seen by Macleay in the juveniles of this species.

A new record for Western Australia.

Family AMPHIACANTHIDAE

Genus AMPHIACANTHUS Bloch and Schneider, 1801

Amphacanthus vermiculatus Cuv. and Val.*Amphacanthus vermiculatus* Cuvier and Valenciennes, 1835, Hist. Nat. Poiss., 10, p. 126.

A specimen measuring 293 mm. total length was taken at Point Samson, December, 1957.

A new record of this species for Western Australia.

Amphacanthus chrysopilos Bleeker*Amphacanthus chrysopilos* Bleeker, 1852, Nat. Tijdschr. Ned. Indie, 3, p. 66.

A specimen measuring 250 mm. in length (to caudal fork) was taken at Point Samson, December, 1957.

A new record of this species for Western Australia.

Amphacanthus doliatus Cuv. and Val.*Amphacanthus doliatus* Cuvier and Valenciennes, 1835, Hist. Nat. Poiss., 10, p. 132.

A specimen measuring 184 mm. in length (to caudal fork) was taken at Point Samson, December, 1957.

A new record of this species for Western Australia.

Family TEUTHIDAE

Genus TEUTHIS Linnaeus, 1766

Teuthis glaucopareius (Cuvier)*Acanthurus glaucopareius* Cuvier, 1829, Regne Anim. ed. 2 (2), p. 224.

A specimen measuring 152 mm. total length was taken at Point Samson, December, 1957.

A new record of this species for Australia.

Teuthis triostegus (Linnaeus)*Chaetodon triostegus* Linnaeus, 1758, Syst. Nat., ed. 10, p. 274.

A specimen measuring 185 mm. total length was taken at Point Samson, December, 1957.

Add area 5 to Whitley's (1948, p. 24) distribution of this species in Western Australia.

Family ACANTHURIDAE

Genus NASO Lacepede, 1802

Naso unicornis (Forsk.)*Chaetodon unicornis* Forsk., 1775, Deser. Anim., p. 63.

A specimen measuring 335 mm. total length (excluding caudal filaments) was taken at Point Samson, December, 1957.

Body coloured a uniform dark brown. Dorsal fin with narrow, dark longitudinal bands. The horn on the forehead is very well developed in this specimen.

A new record of this species for Western Australia.

Naso lituratus (Bloch and Schn.)*Acanthurus lituratus* Bloch and Schneider, 1801, Syst. Ichth., p. 216.

A specimen measuring 256 mm. total length (excluding caudal filaments) was taken at Point Samson, December, 1957.

Body coloured a uniform dark grey. The two bony spines on each side of the caudal peduncle surrounded by a yellow oval spot. A thin yellow band passing forwards below the eye and thence downwards to behind the angle of the mouth. Lower lip light coloured. Dorsal fin black, bordered by a broad cream band, followed by very thin black band.

Anal fin bordered by a similar black band, otherwise dark grey. Pectorals black, ventrals grey. Caudal bordered by a broad white band.

A new record of this species for Australia.

Genus ACANTHURUS Forsk., 1775

Acanthurus doreensis Cuv. and Val.*Acanthurus doreensis* Cuvier and Valenciennes, 1835, Hist. Nat. Poiss., 10, p. 220.

A specimen measuring 220 mm. (length to caudal fork) was taken at Point Samson, December, 1957.

Colours: Body, dorsal, ventral and anal fins a uniform dark brown. Pectoral fin brownish at base, its upper distal part yellow. A narrow white posterior border to the caudal fin.

A new record of this species for Australia.

Family ZANCLIDAE

Genus ZANCLUS Cuv. and Val., 1831

Zanclus canescens (Linnaeus)*Chaetodon canescens* Linnaeus, 1758, Syst. Nat., ed. 10, p. 272.

Two juvenile specimens measuring 119 mm. and 140 mm. total length were taken at Point Samson, December, 1957.

A new record of this species for Western Australia.

Family POMACENTRIDAE

Genus GLYPHISODON Lacepede, 1802

Glyphisodon coelestinus* Cuv. & Val.Glyphisodon coelestinus* Cuvier and Valenciennes, 1830, Hist. Nat. Poiss., 5, p. 464, pl. 135.

A specimen measuring 115 mm. total length was taken at Point Samson, December, 1957.

A new record of this species for Western Australia.

Genus CHROMIS Cuvier, 1815

Chromis cinerascens* (Cuv. and Val.)Heliases cinerascens* Cuvier and Valenciennes, 1830, Hist. Nat. Poiss., 5, p. 495.

Two specimens measuring 104 mm. and 115 mm. total length were taken at Point Samson, December, 1957.

A new record of this species for Australia.

Family CORIDAE

Genus CHEILIO Lacepede, 1802

Cheilio incrimis* (Forsk.)Labrus incrimis* Forskal, 1775, Deser. Anim., p. 34.

A specimen measuring 202 mm. total length was taken at Point Samson, December, 1957.

A new record of this species for Western Australia.

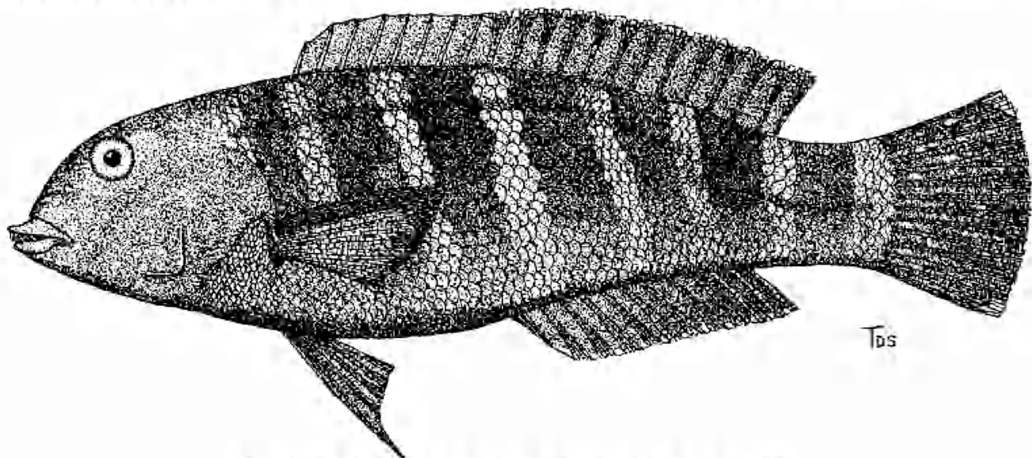
Genus THALASSOMA Swainson, 1839

***Thalassoma septemfasciata* sp. nov.**

D.viii,13. P.15. A.iii,11. V.i,5. C.14.

Lat. line 45-46. Lat. trans. 4:16.

Length of head 56 mm. (3.8), greatest depth of body 54 (3.7), greatest width of body 22 (9.7) in the total length 214 mm. Height of head 1.3 in its

Fig. 4.—*Thalassoma septemfasciata* sp. nov. ($\times \frac{2}{3}$).

length. Eye 10 (2.1) in the snout and 1.3 in the convex interorbital space. Snout 13 (4.3) in the head.

Mouth small, horizontal, not reaching anterior border of eye. Lips very thick. Premaxilla only slightly protractile. Teeth pointed, in a single series in

each jaw, decreasing in size posteriorly. Two moderate canines in each jaw. Head naked, with the exception of a few scales on the upper part of the opercle. About ten small scales before the dorsal.

Body covered with moderate sized cycloid scales, which form a basal sheath on the dorsal and anal fins. Lateral line following the dorsal profile for the greater part of its length, sharply deflected below the tenth dorsal ray. Dorsal spines short and slender, the first very short, the last spine the longest, but not as long as the rays. Origin of anal slightly behind first dorsal ray. First anal spine very small, third longest, equal to diameter of eye. Pectorals equal to head without snout, the second and third rays the longest, decreasing uniformly, the shortest ray one-fourth of the longest. First ray of ventrals produced, reaching anus. Caudal rounded.

Colour in life.—Body colour light blue, with seven darker blue bands, the width of the bands much greater than the interspaces. The first band arises in front of the dorsal fin, and runs to the base of the pectoral. The second and third arise below the spinous dorsal, and pass obliquely across the body. The fourth to sixth arise on the middle of the soft dorsal membrane and run obliquely to the base of the anal. The seventh crosses the broad caudal peduncle. Caudal fin bluish, with light spots. Dorsal fin uniform bluish, with a narrow light border to the soft part. Anal blue with light streaks, a broad light border the entire length of the fin. The upper five rays of the pectoral dark blue, the lower part lightish, a broad dark band covering the distal part of the fin above, becoming obscure below. Head without any distinct markings, dark bluish.

Described from a specimen 214 mm. total length, taken Sharks Bay, May, 1954. Type in South Australian Museum, Reg. No. F2984.

Material examined.—Two specimens, measuring 202 and 214 mm. total length.

Affinities.—Similar to *T. hardwicki* (Bennett) in body proportions and banding on body, but differing in colouration, absence of bands on head and much greater number of scales in lateral line (45-46, compared with 27-28 in *hardwicki*).

Genus ANAMPSES (Cuvier) Quoy and Gaimard, 1824

Anampses pterophthalmus Bleeker

Anampses pterophthalmus Bleeker, 1857, Acta. Soc. Sc. Indo-Nerl., 2, p. 81.

D.ix,12. P.12. A.iii,12. V.i,5. C.14.

Lat. line 52. Lat. trans. 9; 19.

A specimen measuring 119 mm. total length was taken at Sharks Bay, May, 1954. A new record of this species for Australia.

Length of head 34 mm. (3.5), greatest depth of body 30 (4.0), greatest width of body 13 (9.1) in the total length 119 mm. Height of head 1.4 in its length. Eye 6 (1.8) in the snout and 1.5 in the convex interorbital space. Snout 11 (3.0) in the head.

Mouth small, slightly oblique. Maxillary not reaching to below anterior nostril. Lips thick. A single series of very small teeth in the jaws. Upper and lower jaw with two prominent incisors, directed forwards, compressed, with cutting edges. No posterior canines.

Body somewhat compressed, covered with small cycloid scales, those on back and thorax much smaller than those of sides. Head naked, except for the small pre-dorsal scales beginning behind the eye. Vertical fins without a basal scaly sheath. About fourteen pre-dorsal scales, very minute, most of which are embedded in the skin. Lateral line continuous, but sharply deflected below

posterior part of soft dorsal fin. About 34 to 35 scales in its upper part, 11 scales in the lower part. Lateral line canals short and unbranched.

Dorsal spines short and slender, the last spine 8.5 mm., 4.0 in the head. The longest ray 11 mm., equal to the length of the snout. Pectoral fins short, length 2.0 in the head. Ventrals very short, length 2.8 in the head. Third

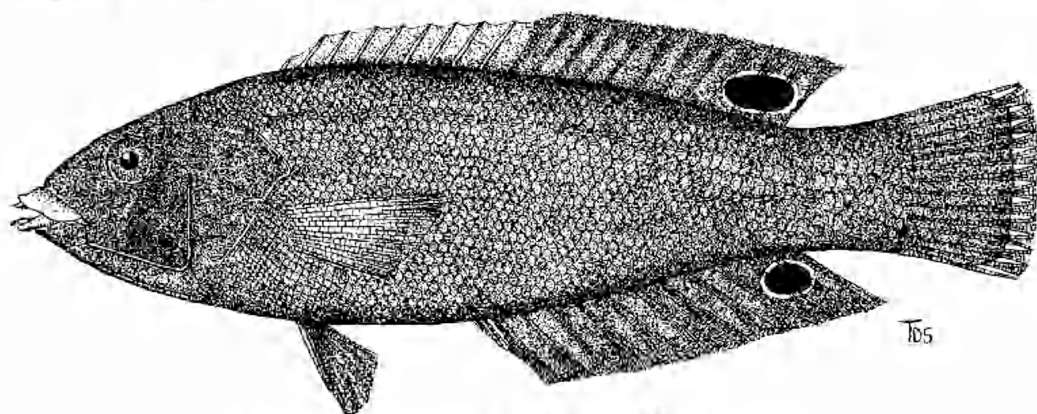


Fig. 5.—*Anampses pterophthalmus* Bleeker ($\times \frac{2}{3}$).

anal spine longest, length 8 mm., 4.2 in the head. Caudal rounded. Caudal peduncle compressed, rather deep, depth 7.5 in the total length.

Colour in life.—Body colour dark brown. Median fins all dark brown, caudal bordered by a narrow white band on the hind margin. A large black white-edged ocellus on the posterior dorsal and anal rays. Pectoral fins light yellow.

Anampses lennardi sp. nov.

D. x, 13. P. 12. A. iii, 12. V. i, 5. C. 14.

Lat. line 29. Lat. trans. 4 : 8.

Length of head 54 mm. (3.7), greatest depth of body 61 (3.3), greatest width of body 26 (7.4) in the total length 203 mm. Height of head 1.0 in its length. Eye 7.5 (2.5) in the snout and 1.9 in the strongly convex interorbital space. Snout 19 (2.8) in the head.

Mouth very small, rather oblique. Maxillary not reaching to below anterior nostril. Lips thick, upper lip much thicker than lower. A single series of minute teeth in the jaws. Both jaws with a pair of prominent anterior incisors, directed forwards, compressed and with cutting edges. No posterior canines.

Body oblong, compressed, covered with large cycloid scales, those before the dorsal and on the breast very small and embedded in the skin. Head naked, except for the small patch of pre-dorsal scales beginning behind the eye. Vertical fins without a basal scaly sheath. Lateral line continuous, sharply deflected below posterior part of soft dorsal fin. About 19 scales in upper part of lateral line, 8 in lower part. Each scale with a rather long unbranched canal.

Dorsal spines very slender and flexible, gradually increasing in length posteriorly, the last spine 19 mm., 2.8 in the head. Pectoral fins short and rounded, length 1.5 in the head. First ray of ventral fins somewhat produced, reaching past vent. Anal spines slender, the third longest, length 14 mm., 3.9 in the head. Caudal margin rounded, caudal peduncle short and deep, its depth 28 mm., 7.2 in the total length.

Colour in life.—Head, body and fins a bright yellow, with blue markings as figured. Three broad blue bars on the head, continued on to the middle of the body. Two of these bars cross the snout, and a further bar crosses the nape. Posterior part of body with blue bars and spots. Dorsal fin with a thin blue marginal band, below which is a series of round blue spots, on the membrane between the spines and rays. Membrane blue between bases of spines and rays. Pectoral fin plain yellow. Anal with thin blue bands as figured. Spine and first ray of ventral fin coloured blue, rest of fin yellow. Caudal fin yellow, with a thin blue band on the first and last ray.

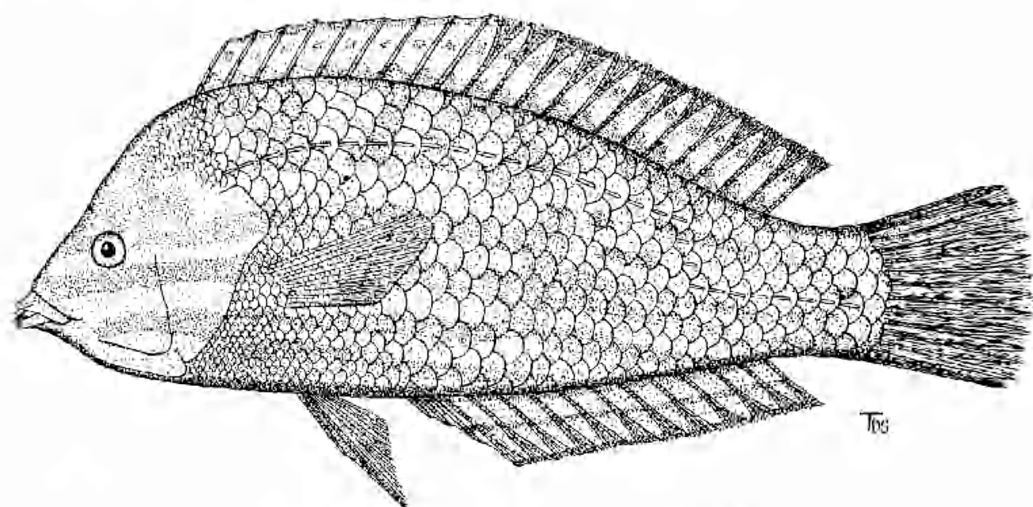


Fig. 6.—*Ananupses lemmardi* sp. nov. ($\times \frac{2}{3}$).

Described from a male specimen 203 mm. total length taken at Point Samson, December, 1957. Type in South Australian Museum, Reg. No. F3024.

Material examined.—Two specimens measuring 203 mm. and 189 mm. total length.

Affinities.—Similar to *A. meleagrides* Cuv. and Val. in meristic features but differing in body proportions and colouration. The ventral fin is much more produced in *lemmardi*, the ventrals of *meleagrides* being shorter than the pectorals.

Genus *STETHOJULIS* Gunther, 1861

Stethojulis rubromacula sp. nov.

D.ix,11. P.13. A.iii,11. V.i,5. C.14.

Lat. line 28-29. Lat. trans. 2:7.

Length of head 32 mm. (3.8), greatest depth of body 34 (3.6), greatest width of body 17 (7.2) in the total length 122 mm. Height of head equal to its length. Eye 5 (2.6) in the snout and 1.6 in the convex interorbital space. Snout 13 (2.5) in the head.

Mouth very small, oblique. Maxillary not reaching to below anterior nostril. Teeth small, incisiform, in a single series in both jaws. No anterior canines, but a small posterior canine at corner of mouth. Lips rather thick. Premaxilla slightly protractile. Head naked, except for a few small scales embedded in the skin, beginning mid-way between the eye and upper angle of the operculum. Five to six pre-dorsal scales.

Body covered with large cycloid scales, those of thorax larger than those of sides. Pre-dorsal scales smaller than those of sides. Vertical fins without a basal scaly sheath. Lateral line following the dorsal profile, sharply bent downwards before the caudal peduncle. Lateral line canals single, unbranched.

Dorsal spines short and slender, the first very short, smaller than the eye diameter. The last spine the longest, but not as long as the rays. Vertical fins short, not reaching vent. First anal spines minute, the third largest, equal to one eye diameter and a half. Pectoral equal to length of head without snout. Caudal fin rounded. Depth of caudal peduncle equal to snout.

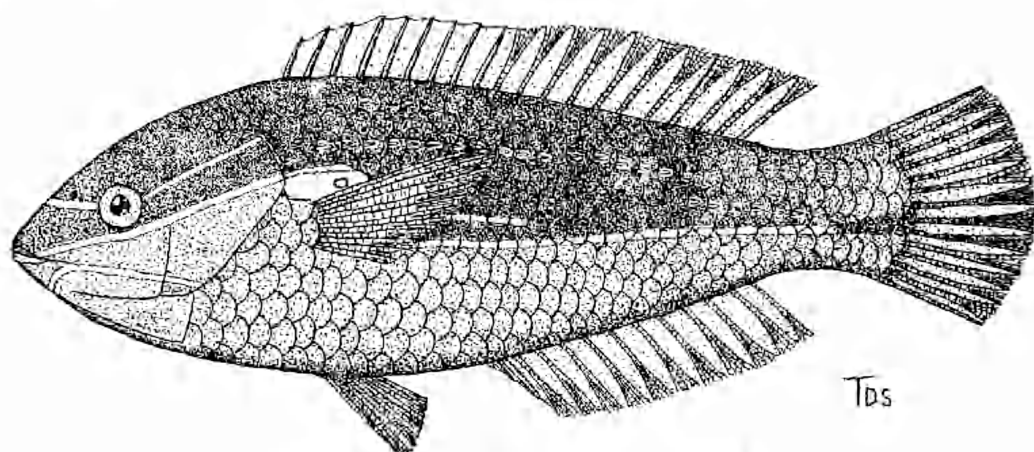


Fig. 7.—*Stethojulis rubromaculata* sp. nov. ($\times 1$).

Colour in life.—Body colour olive green above, silvery white below. Three light blue lines on the face. The first passes horizontally from the dorso-frontal profile to the middle of the eye, thence upwards to the upper angle of the operculum. The second arises from the mouth and passes slightly obliquely upwards below the eye to the most posterior edge of the operculum, and continues on to the first 4 or 5 body scales above the pectoral fin. The third arises below the mouth, passes upwards on to the cheek, thence almost horizontally to the edge of the operculum. Upper part of head green, cheeks grading to yellow, chin pink. Body with two light blue lines. The first arises immediately behind the pectoral fin, and passes backwards horizontally on to about seven body scales. The second arises below the base of the pectoral, and runs back horizontally, ending about five scales before the beginning of the caudal rays. A dark band extends back from the end of this blue line across the caudal peduncle on to three rays of the caudal fin. The remainder of the caudal, and all other fins, are amber coloured. A large oval-shaped splash of red, immediately above the base of the pectoral fin.

Described from a specimen 122 mm. total length, taken Sharks Bay, May, 1954. Mr. Barrett-Lennard says that this appears to be about the maximum size to which this species grows.

Type in South Australian Museum, Reg. No. F2993.

Affinities.—Allied to *S. strigiventer* (Bennett) in meristic features but differing in body proportions, body colouration and number and distribution of bands on head and body. The silvery longitudinal bands of *strigiventer* are blue in this species, and the brown spot on the posterior dorsal rays and brown caudal cross-bars are lacking.

Genus CHEILINUS Lacepede, 1802

Cheilinus chlorourus (Bloch)

Sparus chlorourus Bloch, 1791, Nat. Ansl. Fische 5, p. 24, pl. 260.

A specimen measuring 232 mm, total length was taken at Point Samson, August, 1957. Add area 5 to Whitley's (1948, p. 26) distribution of this species in Western Australia.

Family BODIANIDAE

Genus CHOERODON Bleeker, 1849

Choerodon rubidus sp. nov.

D.xiii,7. P.17. A.iii,11. V.i,5. C.14. Br.6.

Lat. line 28-29. Lat. trans. 3½:9.

Length of head 57 mm. (3.7), greatest depth of body 63 (3.3), greatest width of body 28 (7.5) in the total length 210 mm. Height of head 1.1 in its length. Eye 12 (1.7) in the snout and 1.3 in the convex interorbital space. Snout 21 (2.7) in the head.

Mouth oblique, scarcely protractile, reaching to below posterior nostril. Upper lip thin, covered by preorbital when mouth is closed. Four peg-like canines in each jaw, the outer pair in the upper jaw much smaller than the inner pair. Canines of lower jaw small, the outer pair slightly flared out. Teeth behind the canines coalesced, forming a serrated ridge. No posterior canine.

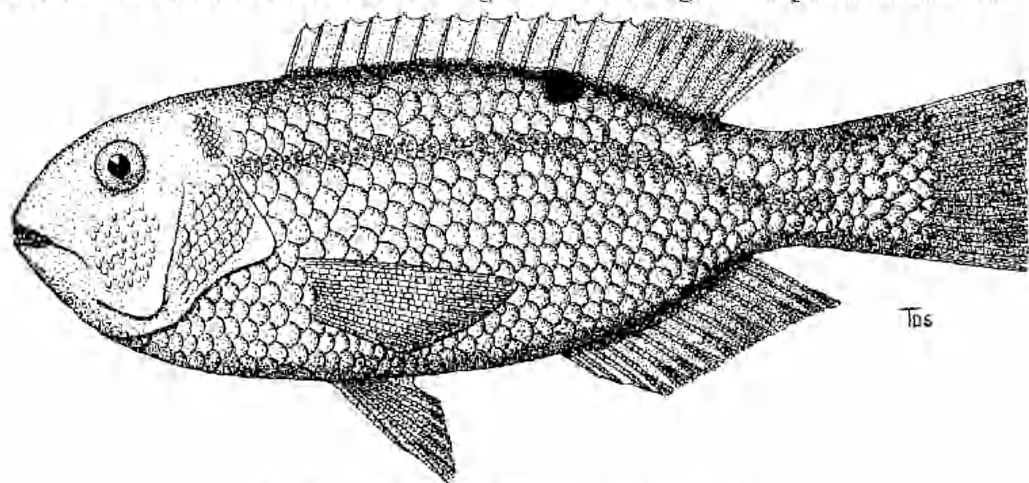


Fig. 7.—*Stethojulis rubromacula* sp. nov. ($\times 1$).

Six to seven rows of small scales on the cheek. Operculum with five rows of much larger scales. Preoperculum finely denticulate. Scales on nape beginning above vertical through hind border of preoperculum. Body covered with large cycloid scales, which form a low basal sheath on the dorsal and anal fins. Lateral line complete, without a sharp deflection.

Six predorsal scales, twelve to thirteen preventral scales. Scales on thorax much smaller than on body. Dorsal spines short but pungent, the membrane behind them produced into a short filament. First spine equal to diameter of eye, the second spine the longest. Soft dorsal pointed behind, the last ray almost twice as long as the first.

Anal spines pungent, the third longest, but not as long as the first ray. Anal fin pointed behind. Pectoral fin rather long, the longest rays 4.4 in the total length. Ventrals pointed, reaching to the anus. Caudal truncate.

Colour in alcohol.—Body and fins coloured a uniform reddish brown, the fins without any conspicuous spots or markings. A small black spot on the back, immediately below the eleventh and twelfth dorsal spines, and covering the small scales forming the basal sheath of the dorsal fin.

Described from a specimen 210 mm. total length, taken Sharks Bay, May, 1954. Type in South Australian Museum, Reg. No. F2985.

Affinities.—Similar to *C. vitta* Ogilby in meristic features and body proportions, but differing in colour pattern, unevenly rounded shape of pectoral fin and truncate hind margin to the caudal fin. The caudal fin of *vitta* is emarginate, and the pectoral evenly rounded.

Genus *LEPIDAPLOIS* Gill, 1862

Lepidaplois vulpinus (Richardson)

Lepidaplois vulpinus Richardson, 1850, Proc. Zool. Soc. Lond., p. 71.

A large specimen measuring 435 mm. total length was taken at Hamlin Bay, January, 1955. Body and fins coloured a bright red. Membrane black between the first five dorsal spines.

Add area 3 to Whitley's (1948, p. 26) distribution of this species in Western Australia.

Family TRIGLIDAE

Genus *PARATRIGLA* Ogilby, 1911

Paratrigla papilio (Cuv. and Val.)

Trigla papilio Cuvier and Valenciennes, 1829, Hist. Nat. Poiss., 4, p. 80, pl. 73.

Two small specimens measuring 92 mm. and 95 mm. total length were taken at Perth, September, 1954.

Add area 3 to Whitley's (1948, p. 30) distribution of this species in Western Australia.

Family DACTYLOPTERIDAE

Genus *DACTYLOPTENA* Jordan and Richardson, 1908

Dactyloptena orientalis (Cuv. and Val.)

Dactylopterus orientalis Cuvier and Valenciennes, 1829, Hist. Nat. Poiss., 4, p. 134, pl. 76.

A small specimen measuring 172 mm. total length was taken at Point Samson, August, 1957. Add area 5 to Whitley's (1948, p. 30) distribution of this species in Western Australia.

Family OSTRACIONTIDAE

Genus *OSTRACION* Linnaeus, 1758

Ostracion tuberculatus Linnaeus

Ostracion tuberculatus Linnaeus, 1758, Syst. Nat., ed. 10, p. 331.

Two specimens measuring 345 mm. and 153 mm. total length were taken at Point Samson, December, 1957.

A new record of this species for Western Australia.

Family TETRAODONTIDAE

Genus *OMEGOPHORA* Whitley, 1934

Omegophora armilla (McCulloch and Waite)

Tetraodon armilla McCulloch and Waite, 1915, Trans. Roy. Soc. S. Austr., 39, p. 475, pl. 15.

A female specimen measuring 185 mm. total length was taken at Point Samson, December, 1957.

Add area 5 to Whitley's (1948, p. 32) distribution of this species in Western Australia.

An examination of 12 specimens of *Omegophora armilla* taken in Southern Australian waters during the past few years, shows that this species exhibits sexual dimorphism in its colour pattern. In the female the upper surface of the snout, back and tail are dark grey, this colour continued on to the sides behind the pectoral fins. There is a dark band passing from the eyes to below the snout. A black ring encircles the gill-opening and pectoral fin. The lower three or four rays of the caudal fin are dark brown to black.

The colouring of the male is similar, with the following additions. Blue spots on the head from the interorbital space to tip of snout. Blue longitudinal bars between front border of eye and tip of snout. Sides with blue spots extending down to level of ventral insertion of pectoral fin. A thin blue horseshoe-shaped bar encircling the pectoral fin, situated on the outer side of the black bar, and running parallel to it.

Family DIODONTIDAE

Genus *Diodon* Linnaeus, 1758

Diodon holocanthus Linnaeus

Diodon holocanthus Linnaeus, 1758, Syst. Nat., ed. 10, p. 335.

A specimen measuring 128 mm. total length was taken at Point Samson, December, 1957. This species is doubtfully recorded from North-Western Australia by Whitley (1948, p. 32) in area 5. It has been recorded previously from Queensland, New South Wales, Victoria, and erroneously recorded from South Australia by McCulloch (1929, p. 435).

Family ECHENEIDAE

Genus *Leptecheneis* Gill, 1864

Leptecheneis neucrates (Linnaeus)

Echeneis neucrates Linnaeus, 1758, Syst. Nat., ed. 10, p. 261.

D.xv,32. P.20. A.33. C.17.

A large specimen measuring 462 mm. total length was taken at Point Samson, August, 1955.

The edges of the soft dorsal and anal are bordered with a thin white band. Caudal with white margins, the central part black. A dark longitudinal band on the sides of the body.

Add area 5 to Whitley's (1948, p. 29) distribution of this species in Western Australia.

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